

U.S. Patent No. 9,130,900 V. Samsung Electronics Co., Ltd.

1. Claim Chart

Claim	Analysis
[20.P] A system to assist a user, comprising:	<p>Samsung Electronics Co., Ltd. (“Defendant”) makes, uses, sells, tests, markets, offers to sell and/or imports a system to assist a user.</p> <p>This element is infringed literally, or in the alternative, under the doctrine of equivalents.</p> <p>For example, Defendant provides Galaxy S23¹ which comprises Bixby Voice assistant as a pre-installed application. Bixby assists users to perform tasks such as calling, texting, and/or searching in response to voice commands from the user.</p>

¹ While Samsung Galaxy S23 has been used as an exemplary infringing product, other devices including, but not limited to, S23+, S23 Ultra, S22, S22+, S22 Ultra, S21, S21+, S21 Ultra, S21 FE, S20, S20+, S20 Ultra, S20 FE, S10, S10+, S10e, S10 Lite, S8, S8+, S8 Active, A73 5G, A53, A33 5G, A71, A72, A54 5G, A53x, A52, A52 5G, A52s, A51, A51 5G, A90, A80, A82, A71 5G, A70, A70s, A60, A50, A50s, A8s, A9 2018, A9 Pro, A8 Star, A34 5G, A33 5G, A Star, F52, F62, M52, M54 5G, M62, Note20, Note20+, Note20 Ultra, Note10, Note10+, Note10 Lite, Note9, S9, S9+, Note8, Xcover Pro, Xcover Pro2, Fold, Z Fold 2, Z Fold 3, Z Fold 4, Z Flip, Z Flip 5G, Z Flip 3, Z Flip 4, Tab S8, Tab S8+, Tab S8 Ultra, Tab S7, Tab S7+, Tab S7 Lite, Tab S6, Tab S6 Lite, Tab S5e, Tab S4, Tab A 10.5", Tab Active Pro, Tab A2, Tab A4, Tab Active3, Tab Active Pro, Tab Active, Book2 HDD, Book2, Book2 360, Book2 Pro 15, Book2 Pro13, Book2 Pro 360, Book, Book Biz, Book Pro, Book Pro 360, Book Odyssey, Book Go, Book Go 5G, Book Flex 2a, Book Flex 2, Book Flex 2 5G, Book Ion 2, Book Flex, Book Ion, Book Flex a, Book S, Notebook+, Notebook+2, Notebook Pen, Notebook 9 Pro, Notebook 9, Notebook 7 Spin, Notebook 7 Pro, Notebook 7, Notebook 5, Notebook 3, Notebook Odyssey, as well as variants (be it form factor or functional options) and versions of these products have same functionality. The presently charted exemplary infringing product is representative for purposes of illustrating infringement of the other devices.

Galaxy S23 | S23+

Share the epic with our fastest mobile processor ever and enhanced low-light selfies.**

Get a Galaxy S23+ in Phantom Black storage upgrade and a Clear Gadget Case on us.^{AK} Plus, get up to \$700 trade-in credit.^E


BUY NOW



Source: <https://www.samsung.com/us/smartphones/galaxy-s23/>

⁴Currently available with Galaxy S23/S23+/S23 Ultra/S22/S22+/S22 Ultra/S21/S21+/S21 Ultra/S21 FE/S20/S20+/S20 Ultra/S20 FE/S10/S10+/S10e/S10 Lite/S8/S8+/S8 Active/A73 5G/A53/A33 5G/A71/A72/A54 5G/A53x/A52/A52 5G/A52s/A51/A51

Source: <https://www.samsung.com/us/apps/bixby/>

	<h2 style="text-align: center;">Bixby is for everyone</h2> <p style="border: 1px solid red; padding: 5px; text-align: center;">Make your Galaxy devices more accessible with the help of Bixby. You can switch on or off Accessibility features with your voice, have Bixby read new messages and describe what's on-screen using Bixby Vision's Scene describer function.</p> <p>Source: https://www.samsung.com/us/apps/bixby/</p> <p>Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall have the right to supplement these contentions pursuant to production of such source code by the Defendant.</p>
<p>[20.1] a computing device that captures profile and interests in accordance with previous requests received from the user; and</p>	<p>Defendant provides a computing device that captures profile and interests in accordance with previous requests received from the user.</p> <p>This element is infringed literally, or in the alternative, under the doctrine of equivalents.</p> <p>For example, Galaxy S23 (“computing device”) collects the user’s profile data and information such as favorite apps and services, preferences, interactions, and behaviors including previous commands received from the user.</p> <div style="text-align: center;">  <h2 style="margin-top: 20px;">Do more with Bixby</h2> <p style="margin-top: 10px;">Bixby gives you the freedom to focus on what matters most.</p> <p style="border: 1px solid red; padding: 5px; text-align: center;">It learns what you like to do and works with your favorite apps and services to help you get more things done.</p> <p>Source: https://www.samsung.com/us/apps/bixby/</p> </div>

	<p>Bixby is a virtual assistant that helps you focus on what's important. Bixby learns your preferences over time, helping you get things done faster without needing to open or even install apps! Check out how to activate Bixby to learn more about what it can do for you. Source: https://www.samsung.com/my/support/mobile-devices/how-can-i-use-the-bixby-application/</p> <p>Save time and effort with the Bixby Routines feature on your Galaxy phone. Bixby learns your life patterns and recommends automated work routines, so you no longer have to spend time repeating the same tasks and setups. When you get to work in the morning, Bixby can mute notification sounds and turn on Wi-Fi. Or, when you are going to sleep, Bixby can activate the Blue light filter and lower your screen's brightness level. If you want to learn more about setting up and using Bixby Routines, check out our guide below. Source: https://www.samsung.com/nz/support/mobile-devices/how-to-set-up-and-use-the-bixby-routines-feature-on-your-galaxy-phone/</p> <p>Samsung's terms state users can control their mobile device, and use many of its features, with voice commands with Bixby. For example, Samsung's customization service can improve a user's experience by offering hints and information customized for that user when they use Samsung's voice recognition service Bixby. To provide the Bixby voice services, some voice commands may be transmitted (along with information about a user's device and its usage, including device identifiers) to a third-party service provider that converts their voice commands to text. In addition, Samsung's terms state they may collect information a user exchanges with Bixby through their interactions with the services, including recordings of their voice commands (such as their questions, requests and instructions), their pictures, and other inputs, and the information they receive from the services (such as responses, answers and content).</p> <p>Source: https://privacy.commonsense.org/evaluation/Samsung-Bixby</p>
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- contact information (including your name, email address, postal address, and phone number);
- payment card information (including your name, card number, expiration date, and security code);
- user coupon or gift card number;
- date of birth;
- demographic data (e.g., gender and age range);
- information stored in or associated with your Samsung Account (including your Samsung Account profile, ID, username, and password);
- username and password for participating third-party devices, apps, features, or services;
- information you store on your device, such as photos, contacts, text logs, and calendar information, when you back-up your device or use a feature that requires collection (such as when you share it with other users);
- recordings of your voice when you use voice commands to control a Service, or when you contact our Customer Service team;
- transcripts of chat sessions, text messages, emails, and other communications when you communicate with us using these methods;
- information about products and services you purchase, obtain, or consider; and
- location data (including (1) the precise geolocation of your device if you consent to the collection of this data and (2) information about nearby Wi-Fi access points and cell towers that may be transmitted to us when you use certain Services).

Source: <https://www.samsung.com/us/account/privacy-policy/>

	<h2>What data does it collect?</h2> <hr/> <ul style="list-style-type: none"> ⚠ Personally identifiable information (PII) is collected. <ul style="list-style-type: none"> • The categories of collected personally identifiable information are indicated. ⚠ Unclear whether the collection or use of data is limited to product requirements. ⚠ Geolocation data are collected. ⚠ Biometric or health data are collected. ⚠ Interactions, behaviors, or usage analytics data are collected. <p>Source: https://privacy.commonsense.org/evaluation/Samsung-Bixby</p> <p>Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall have a right to supplement these contentions pursuant to production of such source code by the Defendant.</p>
[20.2] a server in communication with the computing device, the server accessing the one or more semantic web services through an application program	<p>Defendant provides a server in communication with the computing device, the server accessing the one or more semantic web services through an application program interface (API) to perform functions and operations initiated using a user interface on the computing device, the server performing operations including adding a contact, removing a contact, setting an alarm, making a telephone call, sending a text message or email message, adding a calendar event, providing suggestions to the user, the server initiating, activating, or interfacing with any semantic web services on the computing device via the API.</p>

<p>interface (API) to perform functions and operations initiated using a user interface on the computing device, the server performing operations including adding a contact, removing a contact, setting an alarm, making a telephone call, sending a text message or email message, adding a calendar event, providing suggestions to the user, the server initiating, activating, or interfacing with any semantic web services on the computing device via the API,</p>	<p>This element is infringed literally, or in the alternative, under the doctrine of equivalents.</p> <p>For example, Bixby application, hosted from Defendant's server, receives voice commands from the user and transmits them to the server. Upon information and belief, the server hosting Bixby utilizes an application program interface (API) to access web services to perform relevant functions and operations. Further, in response to user's voice command, Bixby performs actions such as adding or removing contacts, setting alarms, making phone calls, sending a text or email messages, adding calendar events, and providing user suggestions.</p> <p>For example, when the server receives a voice command "Hi Bixby, find concert tickets in Los Angeles", the server uses an API to interface with Ticketmaster ("semantic web service") to display required tickets to the user through Bixby. Thus, the server initiate, activate or interface with a web service using an API.</p> <p>Starting with the open SmartThings IoT ecosystem, including the SmartThings App and SmartThings Cloud, Samsung demonstrated how Bixby can help manage a variety of daily tasks from anywhere, at any time. Able to understand an individual's preferences and tailor a unique experience through simple voice commands, Bixby provided information on TV shows being watched, assisted with choosing content to watch and seamlessly migrated the show playing on the living room TV to the bedroom TV when Bixby was told by the user to change rooms.</p> <p>Source: https://news.samsung.com/us/bixby-2-next-paradigm-shift-in-devices/</p>
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Bixby 2.0 will be ubiquitous, available on any and all devices. This means having the intelligence of **Bixby, powered by the cloud,** act as the control hub of your device ecosystem, including mobile phones, TVs, refrigerators, home speakers, or any other

Source: <https://news.samsung.com/us/bixby-2-next-paradigm-shift-in-devices/>

Web 3.0 begins with “Semantic Web,” a concept proposed by Tim Berners-Lee in 1998. Semantic Web refers to a **web in which machines understand natural languages used by humans and provide personalized information that fit situations and context.**

Source: <https://www.samsungsds.com/en/insights/web3.html>

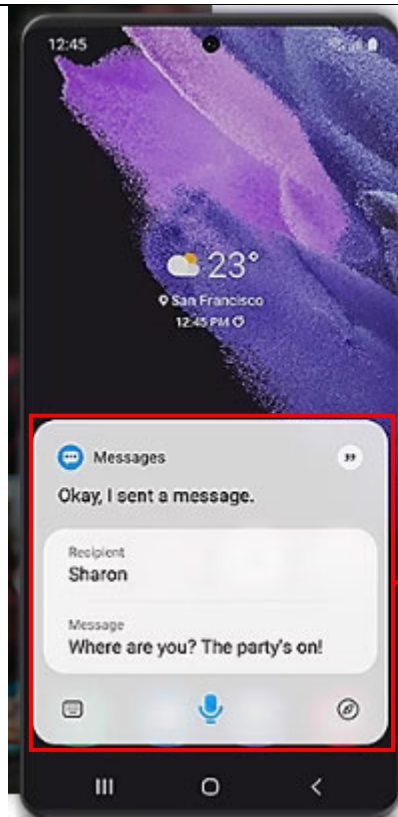
Semantic Web

While the keyword search feature of Web 2.0 required users to go through dozens of pages to find the information they wanted, the Semantic Web of Web 3.0 can remove unnecessary information and quickly derive personalized information based on the user's inclination and search purpose.

Source: <https://www.samsungsds.com/en/insights/web3.html>

How can personalized information be provided? When we think of an apple, various related information, such as the color and type of apple, comes to mind. Such subsidiary information about the apple is called metadata. And the set of these metadata is the Ontology. Computers can think intelligently like humans through the process of conceptually connecting and analyzing data using ontology. Furthermore, they can provide personalized information by analyzing and learning users' search patterns.

Source: <https://www.samsungsds.com/en/insights/web3.html>



"Hi Bixby, text Sharon, 'Where are you? The party's on!'"

user interface

Source: <https://www.samsung.com/us/apps/bixby/> (annotated)

Stay in touch

"Call James"
"Read my unread messages"
"Answer this call"

Source: <https://www.samsung.com/us/apps/bixby/bixby-user-guide/>

Stay in touch

"Call James"

"Read my unread messages"

"Text Serena that I'll be there in five minutes"

Source: <https://www.samsung.com/us/apps/bixby/bixby-user-guide/>

Organize your day

"Share tomorrow's schedule"

"Set an alarm for 7:30 AM every day"

"Remind me to work out tomorrow morning at 9"

Source: <https://www.samsung.com/us/apps/bixby/bixby-user-guide/>

Ticketmaster has partnered with Samsung's Bixby, allowing users in North America to find and purchase event tickets through the virtual assistant. The feature is powered by Ticketmaster's API and [Galaxy Note 9](#) users can now ask Bixby to find events by artist, team, location or date. Just say something like, "Hi Bixby, find concert tickets in Los Angeles," or, "Hi Bixby, what sporting events are happening in New York this weekend?" The assistant will provide results fitting the request and users can then purchase tickets to events available through Ticketmaster.

Source: <https://www.engadget.com/2018-08-28-samsung-bixby-buy-tickets-ticketmaster.html>

	<h2>What Is an API?</h2> <p>The term “API” stands for <i>Application Programming Interface</i>. If you break that down word by word, you can get a pretty good grasp of what it means. An API is an interface that can be used to program software that interacts with an existing application. In practice, an API is “a set of functions and procedures” that allow you to access and build upon the data and functionality of an existing application.</p> <p>Source: https://nordicapis.com/what-is-the-difference-between-web-services-and-apis/</p> <h2>What Is a Web Service?</h2> <p>Simply put, a web service is a resource that’s made available over the internet.</p> <p>Source: https://nordicapis.com/what-is-the-difference-between-web-services-and-apis/</p> <p>Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall have a right to supplement these contentions pursuant to production of such source code by the Defendant.</p>
<p>[20.3] wherein the computing device applies a current location of the user to the user intent to provide at least one location based response to the user for personalization based on a user current location and wherein the computing device retrieves answers from</p>	<p>Defendant provides a computing device, wherein the computing device applies a current location of the user to the user intent to provide at least one location based response to the user for personalization based on a user current location and wherein the computing device retrieves answers from the web services and user generated recommendations and obtains ticket, pass or reservation, on behalf of user, in accordance with the request received from the user.</p> <p>This element is infringed literally, or in the alternative, under the doctrine of equivalents.</p> <p>For example, Bixby collects information such as user’s location to provide results relevant to the user’s location. For example, when a user provides a voice command to check weather, Bixby installed in Galaxy S23 (“computing device”) provides weather related to the user’s location.</p>

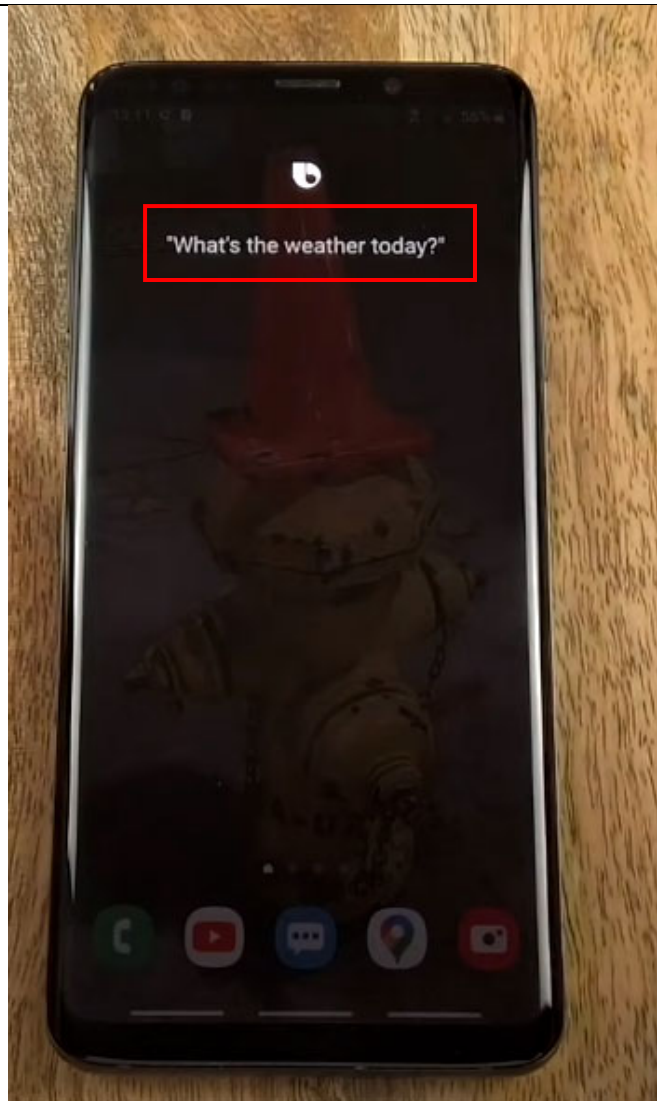
the web services and user generated recommendations and obtains ticket, pass or reservation, on behalf of user, in accordance with the request received from the user.

For example, when a voice command “Hi Bixby, find concert tickets in Los Angeles.” is received, Bixby receives the results from the semantic web services comprising the recommendation (“user generated recommendations”) of concerts in Los Angeles. Upon information and belief, Bixby can be configured to perform an action (such as book a concert ticket) on behalf of the user.

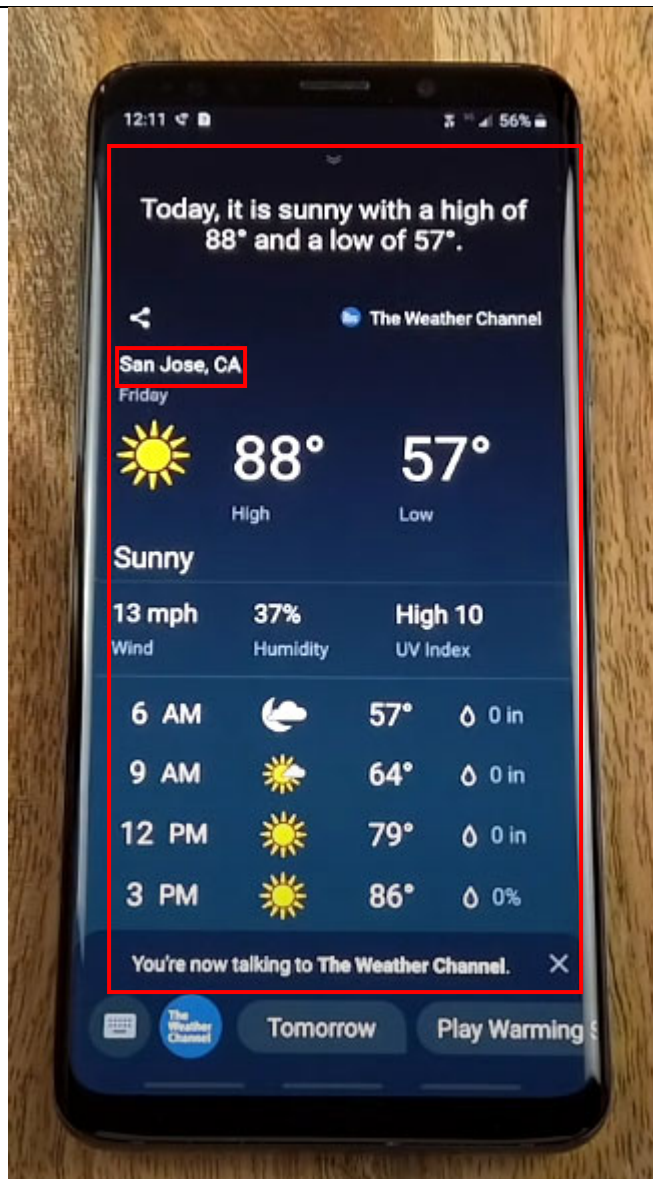
What data does it collect?

- ⚠ Personally identifiable information (PII) is collected.
 - The categories of collected personally identifiable information are indicated.
- ⚠ Unclear whether the collection or use of data is limited to product requirements.
- ⚠ Geolocation data are collected.
- ⚠ Biometric or health data are collected.
- ⚠ Interactions, behaviors, or usage analytics data are collected.

Source: <https://privacy.commonsense.org/evaluation/Samsung-Bixby>



Source: <https://www.youtube.com/watch?v=BjnaXLyERqE>, at 01:14



Source: <https://www.youtube.com/watch?v=BjnaXLyERqE>, at 01:18

Ticketmaster has partnered with Samsung's Bixby, allowing users in North America to find and purchase event tickets through the virtual assistant. The feature is powered by Ticketmaster's API and Galaxy Note 9 users can now ask Bixby to find events by artist, team, location or date. Just say something like, "Hi Bixby, find concert tickets in Los Angeles," or, "Hi Bixby, what sporting events are happening in New York this weekend?" The assistant will provide results fitting the request and users can then purchase tickets to events available through Ticketmaster.

Source: <https://www.engadget.com/2018-08-28-samsung-bixby-buy-tickets-ticketmaster.html>

LOS ANGELES, Aug. 28, 2018 /PRNewswire/ -- Ticketmaster, the global market leader in ticketing, has partnered with Bixby, Samsung's intelligent assistant, enabling fans to discover and buy tickets to their favorite live events. With Ticketmaster's massive inventory of live events and Bixby's smart learning, fans will have a personalized experience from event discovery to seat selection using voice technology.

Source: <https://www.prnewswire.com/news-releases/ticketmaster-partners-with-samsung-bixby-enabling-fans-to-discover-and-buy-tickets-by-voice-300703367.html>

Description

The MovieTickets NL category can help users check showtimes for movies at local theatres and allow users to make ticket purchase transactions for upcoming shows.

Source: <https://bixbydevelopers.com/dev/docs/reference/ref-topics/categories.MovieTickets>

Description

The **FlightBooking** NL category can allow users to search for for available seats for sale on upcoming flights.

Utterances inquiring about the status of recent or current flights go to the **FlightInfo** category instead.

en-US Examples

The following table gives example use cases, example utterances, and requirement levels for the **en-US** locale:

Example Use Case	Example Utterance	Feature Requirement
Book flights	"Book a flight"	Required

Source: <https://bixbydevelopers.com/dev/docs/reference/ref-topics/categories.FlightBooking>

Further, to the extent this element is performed at least in part by Defendant's software source code, Plaintiff shall have a right to supplement these contentions pursuant to production of such source code by the Defendant